November 10, 2016

REMEDIAL INVESTIGATION / FEASIBILITY STUDY

Progress Report #8 — October 2016

Prepared for

COLUMBIA FALLS ALUMINUM COMPANY, LLC
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Columbia Falls, Flathead County, Montana

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APPENDIX

1.0 INTRODUCTION

This Progress Report (Report) presents a summary of activities completed during the period of October 2016, on behalf of Columbia Falls Aluminum Company, LLC (CFAC), for the Remedial Investigation / Feasibility Study (RI/FS) being performed at the Anaconda Aluminum Co. Columbia Falls Reduction Plant (a/k/a Columbia Falls Aluminum Plant) generally located near Columbia Falls in Flathead County, Montana ("Site"). The RI/FS is being conducted pursuant to the Administrative Settlement Agreement and Order on Consent (AOC) dated November 30, 2015 between CFAC and the United States Environmental Protection Agency (USEPA) (CERCLA Docket No. 08-2016-0002).

This Report provides a description of the actions that have been taken to comply with the AOC during the reporting period and describes work planned for the upcoming reporting period, including an updated project schedule as Appendix A. This report also provides updates regarding the availability of any new, validated sampling data received by CFAC during the reporting period. Lastly, this Report provides an update on any scope revisions and/or project delays encountered and solutions implemented to address any changes.

2.0 WORK COMPLETED

This Section provides a summary of activities completed or ongoing in October 2016.

2.1 Preparation of Draft Phase I Site Characterization Summary Report

All planned field activities associated with the Phase I Site Characterization Scope of Work were completed in September 2016. In October, Roux Associates and CFAC continued reviewing and evaluating the field and laboratory data generated during the Phase I Site Characterization Program and began preparation of the Phase I Site Characterization Data Summary Report. Report preparation will continue as validated data is received and evaluated in accordance with the project schedule.

2.2 Additional Monitoring Well Redevelopment at Elevated pH Wells

During monitoring well development and groundwater sampling activities, Roux Associates observed anomalously high pH (i.e., greater than 10) in 11 of the new groundwater monitoring wells installed at the CFAC site as part of the Phase I Site Characterization. The elevated pH conditions primarily occurred in deep monitoring wells (10 of the 11 wells with elevated pH). Based on the distribution of wells with elevated pH across the Site and review of the preliminary groundwater chemistry, the elevated pH was determined to be attributable to the cement-bentonite grout used during well construction affecting water within the well.

Roux Associates provided verbal notification and written notification (via email correspondence) of the elevated pH conditions to USEPA on October 6, 2016. Roux Associates subsequently mobilized personnel from Hydrometrics (subcontractor to Roux Associates) to the Site on October 11, 2016 with the objective of further evaluating the pH conditions and determining if reducing pH levels was possible by further purging groundwater from the wells (i.e., flushing the well screen).

Hydrometrics personnel were onsite from October 11 – 14 and October 18 – 22, 2016 and purged all 11 wells that were identified as having pH over 10. During the purging, Hydrometrics monitored the pH conditions to observe whether pH was reduced. Field parameter data was recorded on field data sheets for each location that was pumped.

All of the water that was removed was containerized in accordance with the IDW Management Plan. The table below lists the wells where additional purging was completed and summarizes the results of the purging activities.

Well ID	Date Visited	Volume Purged (gal)	pH Reduced	Average Purge Rate (gpm)	Start pH	End pH	Notes
CFMW-008a	10/20/2016	4	No	NA	12.05	11.81	Evacuated all water from the well
CFMW-032a	10/13/2016	135	No	0.3	12.46	12.37	
CFMW-053a	10/13/206	11	No	NA	12.15	12.55	Evacuated all water from the well
CFMW-059a	10/12/2016	645	Yes	1.25	12.21	9.58	
CFMW-057a	10/11/2016	22	No	NA	12.76	12.09	Evacuated all water from the well three (3) times
CFMW-049a	10/14/2016	255	Yes	1.25	12.17	9.76	
CFMW-044a	10/18/2016	176	No	0.5	11.01	12.52	water was cloudy
CFMW-016a	10/19/2016	73	Yes	0.7	12.04	8.9	
CFMW-047	10/20/2016	70	Yes	0.7	7.82	7.4	
CFMW-019a	10/19/2016	69	Yes	0.6	10.64	7.84	
CFMW-011a	10/20/2016	105	Yes	0.7	10.56	7.38	

The results of the additional well development activities were discussed with the USEPA and MDEQ during the CFAC project conference call on October 20, 2016. It was agreed on the call that Roux Associates and CFAC will continue to monitor the pH conditions at these 11 locations during future sampling events and will continue to provide updates regarding conditions and potential need for corrective actions in future Progress Reports and Data Summary Reports.

2.3 Project Conference Calls

A conference call was held with the project team on October 20, 2016. Representatives from USEPA, MDEQ, CFAC, and Roux Associates were present for the call. During the call, topics discussed included work progress, data review, and schedule.

3.0 WORK PLANNED FOR NEXT REPORTING PERIOD

This section summarizes the work planned for the next reporting period of November 2016 through January 2017.

3.1 Preparation of the Phase I Site Characterization Data Summary Report

Roux Associates will continue to review and analyze the field and laboratory data generated during the Phase I Site Characterization Program. Roux Associates will continue preparation of the Phase I Site Characterization Data Summary Report as validated data is received. The report will be submitted to USEPA and MDEQ for review in accordance with the schedule provided in Section 5.0.

3.2 Groundwater and Surface Water Sampling Round 2

The second round of groundwater and surface water sampling will commence in December 2016. Samples will be collected in accordance with the RI/FS Work Plan, SAP, SAP Addendum, and any applicable SAP Modifications. Hydrometrics personnel will support Roux Associates in the sampling efforts. Results of the surface water and groundwater sampling will be presented in future data summary reports.

3.3 Investigation Derived Waste Disposal

Water IDW containers will remain onsite through the second round of groundwater sampling. Waste characterizations samples from water IDW will be provided to USEPA and MDEQ for review following the completion of the second round of groundwater sampling. Based on the sample results, Roux Associates, with the support of Cascade Drilling, will coordinate water disposal in accordance with the IDW Management Plan.

4.0 DATABASE UPDATES

Validation of laboratory data from the Phase I Site Characterization is being performed by Laboratory Data Consultants (LDC) as a subcontractor to Roux Associates. In October 2016, LDC provided eight (8) sets of validated analytical data to Roux Associates. All sets of data were uploaded to the CFAC RI/FS database in October 2016 by Roux Associates.

It is expected that the final validated laboratory data for the Phase I Site Characterization Data Summary Report will be received in November 2016. Validated data will continue to be imported into the project database and managed in accordance with the data management procedures outlined in Section 7.10 of the QAPP. Future progress reports will discuss updates to the project database.

5.0 SCOPE/SCHEDULE REVISIONS

The schedule was updated to reflect the progress as a result of the activities completed in October 2016. No changes to the overall schedule are expected at this time. The current Phase I Site Characterization schedule is attached to this Progress Report.

On behalf of CFAC, Roux Associates will continue to pursue the overall objectives described in the AOC and the RI/FS Work Plan. Roux Associates will continue to inform the USEPA of completed and upcoming activities pursuant to the requirements of the AOC in future progress reports.

Respectfully submitted,

ROUX ASSOCIATES, INC.

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Principal Hydrogeologist/
RI Project Manager

Andrew Baris
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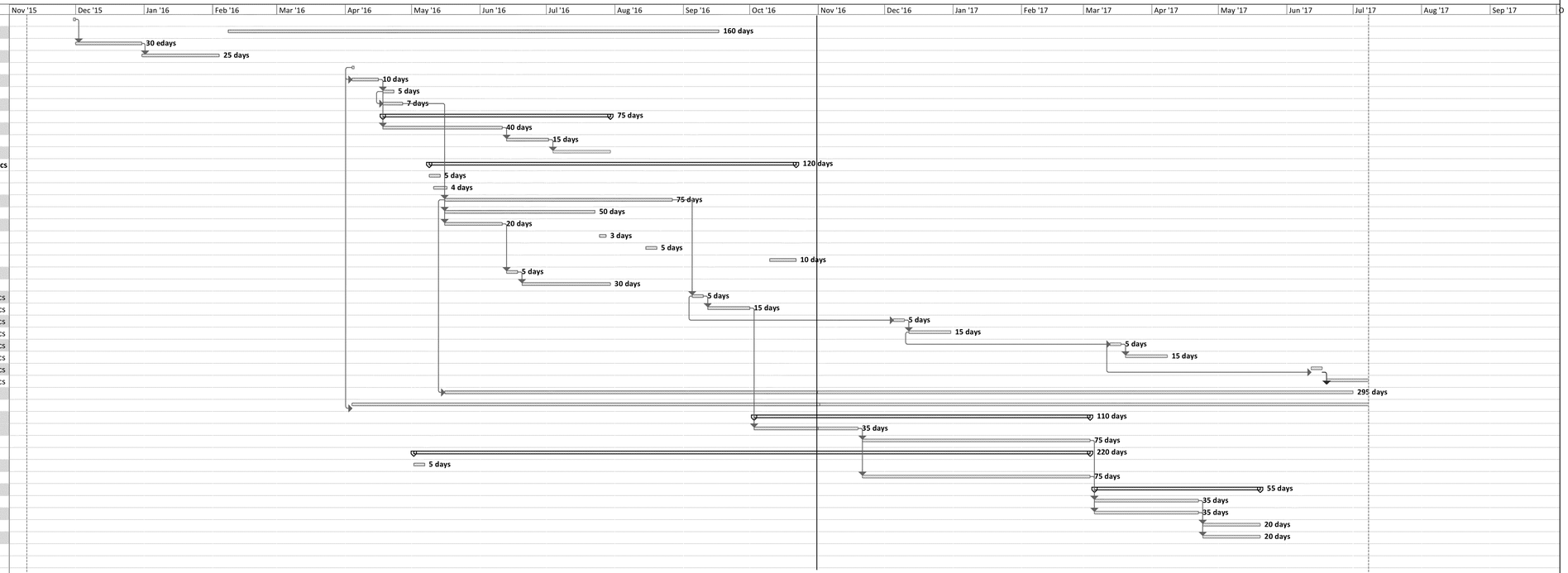
RI/FS Project Manager

APPENDIX A

Project Schedule

Project Schedule Updated November 1, 2016

ID	Deliverable	Task Name	Duration	Start	Finish	Company
1		AOC is executed by all parties	1 day	Mon 11/30/15	Mon 11/30/15	EPA/CFAC
2		Historical Records Review	160 days	Mon 2/8/16	Fri 9/16/16	Roux
3	X	Draft Health and Safety Plan (HASP)	30 edays	Mon 11/30/15	Wed 12/30/15	Roux
4	X	Final Health and Safety Plan (HASP)	25 days	Thu 12/31/15	Wed 2/3/16	Roux
5		Site is clear of Snow / Field Work Begins	1 day	Mon 4/4/16	Mon 4/4/16	
6		Pre-Intrusive Task 1 - Site Reconnaisance	10 days	Mon 4/4/16	Fri 4/15/16	Roux
7		Pre-Intrusive Task 2 - Geophysical Survey	5 days	Mon 4/18/16	Fri 4/22/16	Roux
8		Pre-Intrusive Task 3 - Soil Gas Survey	7 days	Mon 4/18/16	Tue 4/26/16	Roux
9		**SAP Addendum**	**75 days**	**Mon 4/18/16**	**Fri 7/29/16**	**Roux**
10	X	Draft SAP Addendum	40 days	Mon 4/18/16	Fri 6/10/16	Roux
11		EPA Review of Draft SAP Addendum	15 days	Mon 6/13/16	Fri 7/1/16	EPA
12	X	Final SAP Addendum	20 days	Mon 7/4/16	Fri 7/29/16	Roux
13		**Source Area Investigation**	**120 days**	**Mon 5/9/16**	**Fri 10/21/16**	**Roux/Hydrometrics**
14		GPR Utility Mark-Outs	5 days	Mon 5/9/16	Fri 5/13/16	Roux
15		Clearing / Grading for Drill Rig Access	4 days	Wed 5/11/16	Mon 5/16/16	Roux
16		Sonic Rig 1	75 days	Mon 5/16/16	Fri 8/26/16	Roux
17		Sonic Rig 2	50 days	Mon 5/16/16	Fri 7/22/16	Roux
18		Geoprobe	20 days	Mon 5/16/16	Fri 6/10/16	Hydrometrics
19		Landfill GPR Survey Field Work	3 days	Mon 7/25/16	Wed 7/27/16	Roux
20		Test Pitting	5 days	Mon 8/15/16	Fri 8/19/16	Roux
21		Additional Monitoring Well redevelopment activities	10 days	Mon 10/10/16	Fri 10/21/16	Hydrometrics
22		Background Area Investigation	5 days	Mon 6/13/16	Fri 6/17/16	Hydrometrics
23		Operational Grid Area Investigation	30 days	Mon 6/20/16	Fri 7/29/16	Hydrometrics
24		Site-Wide Surface Water Sampling - Event 1	5 days	Mon 9/5/16	Fri 9/9/16	Roux/Hydrometrics
25		Site-Wide Groundwater Sampling - Event 1	15 days	Mon 9/12/16	Fri 9/30/16	Roux/Hydrometrics
26		Site-Wide Surface Water Sampling - Event 2	5 days	Mon 12/5/16	Fri 12/9/16	Roux/Hydrometrics
27		Site-Wide Groundwater Sampling - Event 2	15 days	Mon 12/12/16	Fri 12/30/16	Roux/Hydrometrics
28		Site-Wide Surface Water Sampling - Event 3	5 days	Mon 3/13/17	Fri 3/17/17	Roux/Hydrometrics
29		Site-Wide Groundwater Sampling - Event 3	15 days	Mon 3/20/17	Fri 4/7/17	Roux/Hydrometrics
30		Site-Wide Surface Water Sampling - Event 4	5 days	Mon 6/12/17	Fri 6/16/17	Roux/Hydrometrics
31		Site-Wide Groundwater Sampling - Event 4	15 days	Mon 6/19/17	Fri 7/7/17	Roux/Hydrometrics
32		Background Hydrology Studies	295 days	Mon 5/16/16	Fri 6/30/17	Roux
33		Investigation Derived Waste Management/Disposal	330 days	Mon 4/4/16	Fri 7/7/17	Roux
34		**Draft Phase 1 Data Summary Report**	**110 days**	**Mon 10/3/16**	**Fri 3/3/17**	**Roux**
35		Data Validation Completion	35 days	Mon 10/3/16	Fri 11/18/16	Data Validator
36	X	Draft Phase I Site Characterization Summary Report	75 days	Mon 11/21/16	Fri 3/3/17	Roux
37		**SLERA**	**220 days**	**Mon 5/2/16**	**Fri 3/3/17**	**Roux**
38		Completion of SLERA Field Work	5 days	Mon 5/2/16	Fri 5/6/16	Roux
39	X	Draft SLERA Report	75 days	Mon 11/21/16	Fri 3/3/17	Roux
40		**Final Phase 1 Data Summary Report and SLERA Report**	**55 days**	**Mon 3/6/17**	**Fri 5/19/17**	**Roux**
41		EPA review of Draft Phase I Data Summary Report	35 days	Mon 3/6/17	Fri 4/21/17	EPA
42		EPA review of Draft SLERA Report	35 days	Mon 3/6/17	Fri 4/21/17	EPA
43	X	Final Phase I Summary Report	20 days	Mon 4/24/17	Fri 5/19/17	Roux
44	X	Final SLERA Report	20 days	Mon 4/24/17	Fri 5/19/17	Roux



Scheduled Task | Task Progress Complete | Summary